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Fredrik Alfried Fortier

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EXAMINER

MONDT, JOHANNES P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,460	Applicant(s) FORTIER, FREDRIK ALFRIED	
	Examiner JOHANNES MONDT	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-38 and 40-54 is/are pending in the application.
- 4a) Of the above claim(s) 35-38 and 40-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendment filed 2/06/2009 forms the basis for this Office action. In said Amendment applicant substantially amended claims 30-38 and 40-54, and cancelled claim 39. Comments on remarks are included below under "Response to Arguments".

Response to Arguments

2. Applicant's arguments filed 2/6/09 have been fully considered but they are not persuasive. With regard to applicant's comments on the restriction requirement (concerning election-restriction requirement mailed 9/23/08), said requirement previously was made FINAL and thus is only petitionable matter at this time. In response to applicant's traverse, PCT 13.1 requires a single general *inventive* concept, i.e., as explained in PCT 13.2: "Where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. Although claims 30 and 54 share features, the restriction requirement was based on a showing that none of these features defined a contribution over the prior art. Since the species as claimed only share claim 30 there are no special technical features shared by the species either.

Art Unit: 3663

With regard to the comments in traverse of the art rejection under 35 USC 103(a), applicant's traverse is based upon the amended claim language. In response, examiner points to the teachings of Weatherford, Jr., who, as explained in the art rejection above, teaches an improvement in the support of large pressure vessels (abstract) specifically teaching the limitations introduced by amendment so as to allow a relative motion between the foundation and the supported structure both under normal and abnormal (earthquake) conditions.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. ***Claims 30-33*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (GB 889,758) (previously cited) in view of Weatherford Jr (US 4,008,757: see IDS)) and Holmes (US 5,772,420) (previously cited).

Williams et al teach a support arrangement that includes

a vessel in the form of a core barrel 12 of a gas- cooled nuclear reactor (lines 37-46 of first page; Figures 1-2), *capable* of being operated at high temperature, which is housed within a reactor pressure vessel 11 (lines 47-53 of page 1), the core barrel being elongate in shape and having an axis which extends vertically (see Figure 2: said axis being an axis of symmetry of core barrel 12 in the Figure 2, which happens to be the vertical symmetry axis of the entire Figure 2);

a single vertical support 14 (lines 47-53 of page 1) including upper and lower support members connected to the core barrel 12 and the reactor pressure vessel 11, resp. (two ends of 14 are connected, one upper portion of 14 to the core barrel 12, the other lower portion to the reactor pressure vessel 11: see Figure 1), the upper and lower portion being centrally positioned about the axis (having left and right hand legs equidistant from said axis) between which (inherently (the) vertical loads are transmitted because the connections between the single vertical support and both core barrel and reactor pressure vessel have a component in the vertical direction when vertical is interpreted to be parallel to the height direction of the Drawing of Figure 1; while said upper and lower are relatively displaceable defining oppositely disposed contact surfaces centrally positioned about the axis, given a sufficiently strong displacement force (Examiner Note: the conditions under which “displaceable” has to hold are not further delineated in the claim); and

lateral support means *capable* of providing support to the core barrel and including a plurality of circumferentially spaced upper lateral supports 20/19/17/15 each including a set of inner and outer lateral support members (bearing pads 15 and 17, resp.) (Figures 1-2 and lines 54-65 of page 1) connected to the core barrel 12 and pressure reactor vessel 11, resp. (loc.cit.).

Williams et al do not teach the features that “the upper and lower support members defining respectively downwardly and upwardly disposed contact surfaces through which the vertical loads are transmitted”, nor do Williams et al teach the upper and lower support members to be displaceable under normal operation.

However, it would have been obvious to include the above features in view of Weatherford Jr., who, in a patent on structural support for large pressure vessels (see title and abstract), hence analogous art, teaches a single vertical support comprising base plate 34 on foundation 17 for supporting the vessel, and including upper and lower support members ('forged support block 50 and 'lubricated plate member' or 'Lubrite plate' 47, respectively) (see col. 4, l. 42 and l. 9, resp.), said upper and lower support members being centrally positioned about the axis of the structure to be supported (see Figure) and displaceable relative to one another even in normal operation (see col. 1, l. 43-67, col. 4, l. 41-48 and col. 5, l. 15-20), said upper and lower support members 50 and 47 defining respectively downwardly and upwardly disposed contact surfaces through which the vertical loads are transmitted, in particular: downwardly disposed contact surface of 50 contacting upwardly disposed contact surface of 47 (i.e., concave surface 51 of 50 and convex upper surface of Lubrite plate 47 (see col. 4, l. 29-40). Also note the clearance alongside Lubrite plate 47 (col. 4, l. 9-18) allowing for relative movement of Lubrite plate and base plate 34. *Motivation* to include the teaching by Weatherford Jr in this regard in the invention by Williams derives from the advantage that horizontal forces whether in normal operation or during earthquakes can be absorbed through the relative sliding of the vessel and its foundation (col. 1, l. 60-67).

Williams et al teach said lateral support means to be configured to provide lateral support to the core barrel at or towards an upper end thereof, namely: toward an upper end thereof in the sense that the lateral support is positioned at a higher altitude than the vertical support, and hence is provided toward an upper end thereof from the point

Art Unit: 3663

of view of the vertical support. *Furthermore, it would have been obvious* to position the lateral support toward an upper end thereof in view of Weatherford, Jr., who teaches the lateral support 11 and 12 toward the (cylindrical) upper end of the vessel (see Figure). One of ordinary skill in the art would deem it obvious to place two supports in mutually orthogonal direction not close together, thus preserving the stabilizing effect of the other in the event of a jolt along the first direction.

Williams et al do not necessarily teach the limitation “roller element sandwiched between the inner and outer lateral support members” as recited in claim 30. *However, said inner and outer lateral support members 15 and 17 are, in Williams et al, allowed to slide one with respect to the other (see lines 54-65, page 1), and hence it would have been obvious to interpose a roller between the sliding elements 15 and 17 so as to reduce friction, as is evidenced, for instance, by Holmes, who, in a patent addressing a problem of contact between contacting bearing surfaces (see abstract), hence analogous the technical feature of sliding bearing elements in Williams et al, teaches that friction can be reduced by providing roller contact between the bearing surfaces (see column 6, lines 23-26). Motivation* to include the teaching by Holmes in this regard derives immediately from the advantage as taught by Holmes to reduce friction between contacting, sliding parts.

On claims 31-33: in the support arrangement of the combination of Williams et al, Weatherford, Jr., and Holmes defined above, at least one and in fact both of the downwardly and upwardly disposed contact surfaces is curved, namely: lower surface 51 of support block 50 is concave (col. 4, l. 29-40), and also upwardly disposed contact

Art Unit: 3663

surface of 47 is convex (col. 4, l. 29-40), the upper support member 50 defining a concave contact surface 51 (loc.cit.), and the lower support member defining an oppositely disposed convex contact surface (upwardly disposed surface of 47) (loc. cit.).

5. **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams, Weatherford Jr and Holmes as applied to claim 33 above, and further in view of Crook (GB 808,739) (previously cited).

As detailed above, claim 33 is unpatentable over Williams in view of Weatherford Jr. and Holmes. None of these references teach the further limitation defined by claim 34. However, Crook, in a patent on supports for large structures, hence analogous art, teaches that “the radius on the cylindrical supporting surfaces on the brackets and foundation members should preferably have a large value” (Crook, page 1, line 129 – page 2, line 2). Even further, Crook also teaches that the ordering of the values of the radii of curvature of the load supporting surfaces is a matter of design as they can be interchanged (see Crook, page 2, lines 3-11); hence, either way, Crook teaches the further limitation of claim 34 as well. *Motivation* to include the teaching by Crook in this regard in the invention by Williams derives from the teaching by Crook of reduced material stress due to the cross-cylindrical form of the load-supporting surfaces (Crook, page 1, second column, lines 63-81).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3663

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 8-17.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHANNES MONDT/
Primary Examiner, Art Unit 3663